Assessing California Reserve Margins

Contract #: 100-98-001 **Project #:** 52
Contractor: Electric Power Research Institute (EPRI)
Subcontractors: EPRI Solutions
Project Amount: $25,000
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Status: Completed

Project Description:
The purpose of this project is to develop a report summarizing the value of adequate reserve margins for California and the Bay Area, particularly the San Francisco-San Jose corridor.
Part of the PIER Program's responsibility relates to providing a reliable supply of electric power to California ratepayers. It is, therefore, important for the Commission and the California Consumer Power and Conservation Financing Authority (CP&CFA) to understand what risk is associated with any planned or attained reserve margin of generation resources of all types in attempting to ensure adequate reserve margins to supply all the state's electricity needs.
This project will develop information to help answer the question: What is the risk of California electric customers experiencing power outages at varying levels of California generating reserves?

This project supports the PIER Program objective of:

- Improving the Reliability/Quality of California's Electricity by improving understanding of how adequate reserve margins can reduce the frequency, duration, and cost of outages.

Proposed Outcomes:

1. Develop a better understanding of how decentralized electric generation and non-generation options might reduce the frequency and length of outages and customer outage costs.
2. Compare the value of more peaking and customer units to increased reserves.
3. Determine how the options in task 1, above, might provide insurance against spot market price volatility due to the presence of market power at the margin.
4. Identify principal barriers to the implementation of renewable distributed generation in California and the ways the CP&CFA can remove or alleviate these barriers.

Actual Outcomes:
The project team delivered a final report to PIER and the California Power Authority in early 2002. The report describes the value of reserves as insurance in an uncertain world, covers distributed energy resources and distributed generation and their potential role in reducing outages discusses the impact of load management (conservation, real-time pricing, and curtailment) and identifies barriers to the implementation of renewable as well as opportunities for removing those barriers.

Project Status:
The project is complete.